



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/590,345	08/24/2006	Kunio Gobara	MAT-8895US	5498
52473	7590	09/16/2009		
RATNERPRESTIA P.O. BOX 980 VALLEY FORGE, PA 19482			EXAMINER ELLIOTT IV, BENJAMIN H	
			ART UNIT 2416	PAPER NUMBER
			MAIL DATE 09/16/2009	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/590,345	Applicant(s) GOBARA ET AL.	
	Examiner BENJAMIN ELLIOTT	Art Unit 2416	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 August 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 and 19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,5-16 and 19 is/are rejected.
- 7) ☒ Claim(s) 3 and 4 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>8/24/2006</u> . | 6) <input type="checkbox"/> Other: _____ |

Art Unit: 2416

DETAILED ACTION

1. Claims 1-22 have been examined and are pending. Claims 17, 18, and 20-22 have been canceled. Claims 1, 2, 5-16, and 19 stand rejected.

Priority

2. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d).

Information Disclosure Statement

3. The information disclosure statement (IDS) submitted on 8/24/2006 has been found to be in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement has been considered by the examiner.

Double Patenting

4. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

Art Unit: 2416

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

5. Claims 1, 2, 5-16, and 19 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 121 and 137 of copending Application No. 10/576,065, in view of United States Patent 7,522,618 B2 to Hamamoto et al (hereinafter "Hamamoto").

Although the conflicting claims are not identical, they are not patentably distinct from each other because the three copending applications contain the subject matter regarding the identification of network address traversal type devices through the use of bubble packets and detecting packets.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Application No. 10/590,345	Copending Application No. 10/576,065
Claim 1 An information processing device for making communications through a communications processing device	Claim 121 A first information processor communicating with a second information

handling the communications, the information processing device comprising: a bubble packet transmitter for transmitting a bubble packet via the communications processing device;	processor via a first communication control unit for controlling the communication of the first information processor and a second communication control unit for controlling the communication of the first information processor, comprising: a bubble packet transmitter for transmitting a bubble packet for leaving transmission record in the first communication control unit; a range detection packet transmitter for transmitting a range detection packet used for detecting a range of ports including a bubble packet transmitting port
and a detecting packet transmitter for transmitting a detecting packet via the communications processing device, the detecting packet	a reply packet receiver for receiving a reply packet transmitted from the second information processor via the second communication

<p>being a packet used for detecting a position of a bubble packet transmission</p> <p>port defined as one of ports of the communications processing device used for transmitting the bubble packet; the detecting packet transmitted in a manner that a detecting packet transmission port where the detecting packet passes through becomes the same as or different from the bubble packet transmission port, depending on a type of the communications processing device</p>	<p>control unit to the bubble packet transmitting port, a port of the first communication control unit, which is used in transmission of the bubble packet</p>
<p>Claim 19</p> <p>An information processing method for making communications through a communications processing device handling the communications, the method</p>	<p>Claim 137</p> <p>A communication method used in an information processor of a communication system including an information processor, a communication</p>

comprising the steps of transmitting a bubble packet via the communications processing device, the bubble packet being a packet for leaving a transmission history within the communications processing device;	control unit for controlling a communication of the information processor, and a server, the method comprising the steps of: a bubble packet transmitting step for transmitting a bubble packet for leaving transmission record in the communication control unit via the communication control unit;
and transmitting a detecting packet via the communications processing device, the detecting packet being a packet used for detecting a position of a bubble packet transmission port defined as one of ports of the communications processing device used for transmitting the bubble packet;	a range detection packet transmitting step for transmitting a range detection packet used for detecting a range of ports including a bubble packet transmitting port.

the detecting packet transmitted in a manner that a detecting packet transmission port where the detecting packet passes through becomes the same as or different from the bubble packet transmission port, depending on a type of the communications processing device.	
---	--

Co-pending application 10/576,065 does not explicitly disclose **the detecting packet transmitted in a manner that a detecting packet transmission port where the detecting packet passes through becomes the same as or different from the bubble packet transmission port, depending on a type of the communications processing device.**

Hamamoto discloses **the detecting packet transmitted in a manner that a detecting packet transmission port where the detecting packet passes through becomes the same as or different from the bubble packet transmission port, depending on a type of the communications processing device** (Hamamoto: Col. 11, lines 61-64. The NAT type of the relay apparatus is determined based on the received port numbers included in the received information packets.).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method and apparatus of co-pending application 10/576,065 to include determining the NAT type of the communication apparatus by sending two packets as taught by Hamamoto. This benefits the method and apparatus by transmitting a first transmission process and a second transmission process, wherein a NAT type of the routing apparatus is determined by the returned port numbers, further eliminating the need to send a plurality of unnecessary packets (Hamamoto: Col. 11, lines 9-12 and lines 28-35).

6. Claims 1, 2, 5-16, and 19 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 110 and 118 of copending Application No. 10/576,588 in view of United States Patent 7,522,618 B2 to Hamamoto et al (hereinafter "Hamamoto"). Although the conflicting claims are not identical, they are not patentably distinct from each other because the three copending applications contain the subject matter regarding the identification of network address traversal type devices through the use of bubble packets and detecting packets. This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Application No. 10/590,345	Copending Application No.
-----------------------------------	----------------------------------

[illegible]

<p>detecting packet</p> <p>being a packet used for detecting a position of a bubble packet transmission</p> <p>port defined as one of ports of the communications processing device used for transmitting the bubble packet; the detecting packet transmitted in a manner that a detecting packet transmission port where the detecting packet passes through becomes the same as or different from the bubble packet transmission port, depending on a type of the communications processing device</p>	<p>reference port</p> <p>a bubble packet transmitting port information receiver for receiving bubble packet transmitting port information showing the position of bubble packet transmitting port</p>
<p>Claim 19</p> <p>An information processing method for making communications through a communications processing device handling the communications, the</p>	<p>Claim 118</p> <p>A communication method for establishing communication between a first information processor and a second</p>

method comprising the steps of transmitting a bubble packet via the communications processing device, the bubble packet being a packet for leaving a transmission history within the communications processing device;	information processor via a first communication control unit for controlling the communication of the first information processor and a second communication control unit for controlling the communication of the second information processor; a port in the second communication control unit, that is a reference for transmission of a bubble packet transmitted for leaving transmission record in the first communication control unit;
and transmitting a detecting packet via the communications processing device, the detecting packet being a packet used for detecting a position of a bubble packet	a detection packet transmitting step for transmitting a port detection packet in order to detect the position of the bubble packet transmitting port, a port of the first communication control unit, which is

transmission port defined as one of ports of the communications processing device used for transmitting the bubble packet; the detecting packet transmitted in a manner that a detecting packet transmission port where the detecting packet passes through becomes the same as or different from the bubble packet transmission port, depending on a type of the communications processing device.	used in transmission of the bubble packet.
--	--

Co-pending application 10/576,588 does not explicitly disclose **the detecting packet transmitted in a manner that a detecting packet transmission port where the detecting packet passes through becomes the same as or different from the bubble packet transmission port, depending on a type of the communications processing device.**

Hamamoto discloses **the detecting packet transmitted in a manner that a detecting packet transmission port where the detecting packet passes through becomes the same as or different from the bubble packet**

Art Unit: 2416

transmission port, depending on a type of the communications processing device (Hamamoto: Col. 11, lines 61-64. The NAT type of the relay apparatus is determined based on the received port numbers included in the received information packets.).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method and apparatus of co-pending application 10/576,588 to include determining the NAT type of the communication apparatus by sending two packets as taught by Hamamoto. This benefits the method and apparatus by transmitting a first transmission process and a second transmission process, wherein a NAT type of the routing apparatus is determined by the returned port numbers, further eliminating the need to send a plurality of unnecessary packets (Hamamoto: Col. 11, lines 9-12 and lines 28-35).

7. Claims 1, 2, 5-16, and 19 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 11 and 20 of copending Application No. 11/510,487 in view of United States Patent 7,522,618 B2 to Hamamoto et al (hereinafter "Hamamoto"). Although the conflicting claims are not identical, they are not patentably distinct from each other because the three copending applications contain the subject matter regarding the identification of network address traversal type devices through the use of bubble packets and detecting packets.

Art Unit: 2416

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Application No. 10/590,345	Copen ding Application No. 11/510,487
<p>Claim 1</p> <p>An information processing device for making communications through a communications processing device handling the communications, the information processing device comprising: a bubble packet transmitter for transmitting a bubble packet via the communications processing device;</p>	<p>Claim 11</p> <p>An information processor for establishing communication with other information processor via a communication control unit by using a server, comprising, a bubble packet transmitter for transmitting via the communication control unit a bubble packet for leaving transmission record in the communication control unit</p>

<p>and a detecting packet transmitter for transmitting a detecting packet via the communications processing device, the detecting packet being a packet used for detecting a position of a bubble packet transmission port defined as one of ports of the communications processing device used for transmitting the bubble packet; the detecting packet transmitted in a manner that a detecting packet transmission port where the detecting packet passes through becomes the same as or</p>	<p>and a detection packet transmitter for transmitting to the server a port detection packet used for detecting the position of a bubble packet transmitting port</p> <p>port detection packet used for detecting the</p>
---	---

<p>different from the bubble packet transmission</p> <p>port, depending on a type of the communications processing device</p>	<p>position of a bubble packet transmitting port that is a port of the communication control unit, which is used in transmission of the bubble packet</p>
<p>Claim 19</p> <p>An information processing method for making communications through a communications processing device handling the communications, the method</p> <p>comprising the steps of transmitting a bubble packet via the communications processing device, the bubble packet being a packet for leaving a transmission history within the communications processing device;</p>	<p>Claim 20</p> <p>A communication method used for an information processor in a communication system including the information processor, a communication control unit for controlling the communication of the information processor,</p> <p>and a server, comprising: a bubble packet transmitting step for transmitting</p> <p>via the communication control unit a bubble packet for leaving transmission record in the communication control unit;</p>

Art Unit: 2416

<p>and transmitting a detecting packet via the communications processing device, the detecting packet being a packet used for detecting a position of a bubble packet transmission port defined as one of ports of the communications processing device</p>	<p>and a detection packet transmitting step for transmitting to the server a port detection packet used for detecting the position of the bubble packet transmitting port that is a port of the communication control unit.</p>
---	---

used for transmitting the bubble packet; the detecting packet transmitted in a manner that a detecting packet transmission port where the detecting packet passes through becomes the same as or different from the bubble packet transmission port, depending on a type of the communications processing device.	
---	--

Co-pending application 11/510,487 does not explicitly disclose **the detecting packet transmitted in a manner that a detecting packet transmission port where the detecting packet passes through becomes the same as or different from the bubble packet transmission port, depending on a type of the communications processing device.**

Hamamoto discloses **the detecting packet transmitted in a manner that a detecting packet transmission port where the detecting packet passes through becomes the same as or different from the bubble packet transmission port, depending on a type of the communications processing device** (Hamamoto: Col. 11, lines 61-64. The NAT type of the relay apparatus is

Art Unit: 2416

determined based on the received port numbers included in the received information packets.).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method and apparatus of co-pending application 11/510,487 to include determining the NAT type of the communication apparatus by sending two packets as taught by Hamamoto. This benefits the method and apparatus by transmitting a first transmission process and a second transmission process, wherein a NAT type of the routing apparatus is determined by the returned port numbers, further eliminating the need to send a plurality of unnecessary packets (Hamamoto: Col. 11, lines 9-12 and lines 28-35).

Regarding Claim 2, co-pending applications 10/576,065, 11/510,487, or 10/576,588 do not explicitly disclose **the information processing device according to claim 1 further comprising a destination data receiver for receiving a destination data defined as information on a destination of the bubble packet wherein the bubble packet transmitter transmits the bubble packet according to the destination data.**

Hamamoto discloses **the information processing device according to claim 1 further comprising a destination data receiver for receiving a destination data defined as information on a destination of the bubble packet** (Hamamoto: Figure 2. Examiner correlates this to the “relay information

Art Unit: 2416

receiving section”)., **wherein the bubble packet transmitter transmits the bubble packet according to the destination data** (Hamamoto: Col. 11, lines 39-44. The examination requests are sent to different destinations.).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method and apparatus of co-pending applications 10/576,065, 11/510,487, and 10/576,588 to include determining the NAT type of the communication apparatus by sending two packets as taught by Hamamoto. This benefits the method and apparatus by transmitting a first transmission process and a second transmission process, wherein a NAT type of the routing apparatus is determined by the returned port numbers, further eliminating the need to send a plurality of unnecessary packets (Hamamoto: Col. 11, lines 9-12 and lines 28-35).

Regarding Claim 5, co-pending applications 10/576,065, 11/510,487, or 10/576,588 do not explicitly disclose **the information processing device according to claim 1 further comprising a type data receiver for receiving a type data defined as information indicating a type of the communications processing device wherein the detecting packet transmitter transmits the detecting packet according to the type of the communications processing device indicated by the type data.**

Hamamoto discloses **the information processing device according to claim 1 further comprising a type data receiver for receiving a type data defined as information indicating a type of the communications processing device** (Hamamoto: Figure 2. Examiner correlates this to the “relay characteristic

Art Unit: 2416

determination section".), **wherein the detecting packet transmitter transmits the detecting packet according to the type of the communications processing device indicated by the type data** (Hamamoto: Col. 20, lines 66-67 and Col. 21, lines 1-9. As an example, a port number request packet is sent according to the first examination request. Col. 21, lines 66-67 and Col. 22, lines 1-6. The relay information transmission section of the terminal transmits the NAT type information to the server.).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method and apparatus of co-pending applications 10/576,065, 11/510,487, and 10/576,588 to include determining the NAT type of the communication apparatus by sending two packets as taught by Hamamoto. This benefits the method and apparatus by transmitting a first transmission process and a second transmission process, wherein a NAT type of the routing apparatus is determined by the returned port numbers, further eliminating the need to send a plurality of unnecessary packets (Hamamoto: Col. 11, lines 9-12 and lines 28-35).

Regarding Claim 6, co-pending applications 10/576,065, 11/510,487, or 10/576,588 do not explicitly disclose **the information processing device according to claim 1 further comprising:**

a bubble packet transmission port receiver for receiving a bubble packet transmission port data defined as information indicating a position of a bubble packet transmission port detected based on the detecting packet and an output unit for outputting the bubble packet transmission port data.

Hamamoto discloses **the information processing device according to claim 1 further comprising:**
a bubble packet transmission port receiver for receiving a bubble packet transmission port data defined as information indicating a position of a bubble packet transmission port detected based on the detecting packet
(Hamamoto: Figure 2. Examiner correlates this to the “relay information receiving section”.);
and an output unit for outputting the bubble packet transmission port data
(Hamamoto: Figure 2. Examiner correlates this to the relay information transmission section”).).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method and apparatus of co-pending applications 10/576,065, 11/510,487, and 10/576,588 to include determining the NAT type of the communication apparatus by sending two packets as taught by Hamamoto. This benefits the method and apparatus by transmitting a first transmission process and a second transmission process, wherein a NAT type of the routing apparatus is determined by the returned port numbers, further eliminating the need to send a plurality of unnecessary packets (Hamamoto: Col. 11, lines 9-12 and lines 28-35).

Regarding Claim 7, co-pending applications 10/576,065, 11/510,487, or 10/576,588 do not explicitly disclose **the information processing device according to claim 1 further comprising:**
a detecting port data receiver for receiving a detecting port data defined as

Art Unit: 2416

information indicating a position of a port of the communications processing device where the detecting packet passed through a bubble packet transmission port detector for detecting a position of the bubble packet transmission port according to a type of the communications processing device and the detecting port data and an output unit for outputting a bubble packet transmission port data defined as information indicating the position of the bubble packet transmission port detected by the bubble packet transmission port detector.

Hamamoto discloses **the information processing device according to claim 1 further comprising:**

a detecting port data receiver for receiving a detecting port data defined as information indicating a position of a port of the communications

processing device where the detecting packet passed through (Hamamoto:

Figure 2. Examiner correlates this to the “relay information receiving section”.);

a bubble packet transmission port detector for detecting a position of the bubble packet transmission port according to a type of the

communications processing device and the detecting port data (Hamamoto:

Figure 2. Examiner correlates this to the “relay characteristic determination section”.);

and an output unit for outputting a bubble packet transmission port data defined as information indicating the position of the bubble packet transmission port detected by the bubble packet transmission port

Art Unit: 2416

detector (Hamamoto: Figure 2. Examiner correlates this to the relay information transmission section").).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method and apparatus of co-pending applications 10/576,065, 11/510,487, and 10/576,588 to include determining the NAT type of the communication apparatus by sending two packets as taught by Hamamoto. This benefits the method and apparatus by transmitting a first transmission process and a second transmission process, wherein a NAT type of the routing apparatus is determined by the returned port numbers, further eliminating the need to send a plurality of unnecessary packets (Hamamoto: Col. 11, lines 9-12 and lines 28-35).

Regarding Claim 8, co-pending applications 10/576,065, 11/510,487, or 10/576,588 do not explicitly disclose **the information processing device according to claim 1, wherein the detecting packet transmitter transmits detecting packets in a manner that a port of the communications processing device where at least one of the detecting packets passes through is the same as the bubble packet transmission port if the communications processing device is of cone type and in a manner that the port of the communications processing device where the detecting packets passes through is different from the bubble packet transmission port if the communications processing device is of symmetric type.**

Hamamoto discloses **the information processing device according to claim 1, wherein the detecting packet transmitter transmits detecting**

Art Unit: 2416

packets in a manner that a port of the communications processing device where at least one of the detecting packets passes through is the same as the bubble packet transmission port if the communications processing device is of cone type (Hamamoto: Col. 19, lines 46-53), **and in a manner that the port of the communications processing device where the detecting packets passes through is different from the bubble packet transmission port if the communications processing device is of symmetric type** (Hamamoto: Col. 19, lines 53-56. the AS NAT type router is defined as a symmetric router (Col. 2, lines 46-48).).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method and apparatus of co-pending applications 10/576,065, 11/510,487, and 10/576,588 to include determining the NAT type of the communication apparatus by sending two packets as taught by Hamamoto. This benefits the method and apparatus by transmitting a first transmission process and a second transmission process, wherein a NAT type of the routing apparatus is determined by the returned port numbers, further eliminating the need to send a plurality of unnecessary packets (Hamamoto: Col. 11, lines 9-12 and lines 28-35).

Regarding Claim 9, co-pending applications 10/576,065, 11/510,487, or 10/576,588 do not explicitly disclose **the information processing device according to claim 1, wherein the detecting packet transmitter transmits the detecting packet by using the same port as a port of the information processing device where the bubble packet is transmitted from, before or**

Art Unit: 2416

after transmission of the bubble packet if the communications processing device is of cone type.

Hamamoto discloses **the information processing device according to claim 1, wherein the detecting packet transmitter transmits the detecting packet by using the same port as a port of the information processing device where the bubble packet is transmitted from, before or after transmission of the bubble packet if the communications processing device is of cone type** (Hamamoto: Col. 28, lines 21-29. After receiving the NAT type information, the terminal transmits a start request.).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method and apparatus of co-pending applications 10/576,065, 11/510,487, and 10/576,588 to include determining the NAT type of the communication apparatus by sending two packets as taught by Hamamoto. This benefits the method and apparatus by transmitting a first transmission process and a second transmission process, wherein a NAT type of the routing apparatus is determined by the returned port numbers, further eliminating the need to send a plurality of unnecessary packets (Hamamoto: Col. 11, lines 9-12 and lines 28-35).

Regarding Claim 10, co-pending applications 10/576,065, 11/510,487, or 10/576,588 do not explicitly disclose **the information processing device according to claim 1, wherein the detecting packet transmitter repeats transmitting the detecting packet from a different port of the information processing device than ports used before for transmission of the prior**

Art Unit: 2416

packets until a position of the port, which is a first port, of the information processing device from which the detecting packet is transmitted matches with a position of a port, which is a second port of the communications processing device where the same packet passes through if the communications processing device is of port reuse type, and the bubble packet transmitter transmits the bubble packet from the first port used for transmitting the detecting packet when the position of the first port matches with the position of the second port.

Hamamoto discloses **the information processing device according to claim 1, wherein the detecting packet transmitter repeats transmitting the detecting packet from a different port of the information processing device than ports used before for transmission of the prior packets until a position of the port, which is a first port, of the information processing device from which the detecting packet is transmitted matches with a position of a port, which is a second port** (Hamamoto: Col. 15, lines 36-40. A second transmission is sent from a source port number which is different from the first number in the first transmission.), **of the communications processing device where the same packet passes through if the communications processing device is of port reuse type, and the bubble packet transmitter transmits the bubble packet from the first port used for transmitting the detecting packet when the position of the first port matches with the position of the second port** (Hamamoto: Col. 20, lines 1-14. The port reuse type is determined

Art Unit: 2416

when the first port pair sent in the first transmission match the port pair in the second transmission.).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method and apparatus of co-pending applications 10/576,065, 11/510,487, and 10/576,588 to include determining the NAT type of the communication apparatus by sending two packets as taught by Hamamoto. This benefits the method and apparatus by transmitting a first transmission process and a second transmission process, wherein a NAT type of the routing apparatus is determined by the returned port numbers, further eliminating the need to send a plurality of unnecessary packets (Hamamoto: Col. 11, lines 9-12 and lines 28-35).

Regarding Claim 11, co-pending applications 10/576,065, 11/510,487, or 10/576,588 do not explicitly disclose **the information processing device according to claim 1, wherein the detecting packet transmitter transmits the detecting packet by using the same port as a port of the information processing device where the bubble packet is transmitted from, before or after transmission of the bubble packet if the communications processing device is of port reuse type.**

Hamamoto discloses **the information processing device according to claim 1, wherein the detecting packet transmitter transmits the detecting packet by using the same port as a port of the information processing device where the bubble packet is transmitted from, before or after transmission of the bubble packet if the communications processing**

device is of port reuse type (Hamamoto: Figure 4A. The port number examination requests 1 and 2 are sent prior to the type determination step.).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method and apparatus of co-pending applications 10/576,065, 11/510,487, and 10/576,588 to include determining the NAT type of the communication apparatus by sending two packets as taught by Hamamoto. This benefits the method and apparatus by transmitting a first transmission process and a second transmission process, wherein a NAT type of the routing apparatus is determined by the returned port numbers, further eliminating the need to send a plurality of unnecessary packets (Hamamoto: Col. 11, lines 9-12 and lines 28-35).

Regarding Claim 12, co-pending applications 10/576,065, 11/510,487, or 10/576,588 do not explicitly disclose **the information processing device according to claim 1, wherein the detecting packet transmitter transmits detecting packets before and after transmission of the bubble packet each from a different port in a manner that one of the detecting packets is transmitted from the same port used by the bubble packet transmitter for transmitting the bubble packet.**

Hamamoto discloses **the information processing device according to claim 1, wherein the detecting packet transmitter transmits detecting packets before and after transmission of the bubble packet** (Hamamoto: Col. 28, lines 21-29. After receiving the NAT type information, the terminal transmits a start request.), **each from a different port in a manner that one of the**

Art Unit: 2416

detecting packets is transmitted from the same port used by the bubble packet transmitter for transmitting the bubble packet (Hamamoto: Figure 4B. The first transmission defines GP11 as the first port as well as the second transmission.).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method and apparatus of co-pending applications 10/576,065, 11/510,487, and 10/576,588 to include determining the NAT type of the communication apparatus by sending two packets as taught by Hamamoto. This benefits the method and apparatus by transmitting a first transmission process and a second transmission process, wherein a NAT type of the routing apparatus is determined by the returned port numbers, further eliminating the need to send a plurality of unnecessary packets (Hamamoto: Col. 11, lines 9-12 and lines 28-35).

Regarding Claim 13, co-pending applications 10/576,065, 11/510,487, or 10/576,588 do not explicitly disclose **the information processing device according to claim 1, wherein the detecting packet transmitter transmits detecting packets before and after transmission of the bubble packet if the communications processing device is of symmetric type.**

Hamamoto discloses **the information processing device according to claim 1, wherein the detecting packet transmitter transmits detecting packets before and after transmission of the bubble packet if the communications processing device is of symmetric type** (Hamamoto: Col.

Art Unit: 2416

19, lines 53-56. the AS NAT type router is defined as a symmetric router (Col. 2, lines 46-48).).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method and apparatus of co-pending applications 10/576,065, 11/510,487, and 10/576,588 to include determining the NAT type of the communication apparatus by sending two packets as taught by Hamamoto. This benefits the method and apparatus by transmitting a first transmission process and a second transmission process, wherein a NAT type of the routing apparatus is determined by the returned port numbers, further eliminating the need to send a plurality of unnecessary packets (Hamamoto: Col. 11, lines 9-12 and lines 28-35).

Regarding Claim 14, co-pending applications 10/576,065, 11/510,487, or 10/576,588 do not explicitly disclose **the information processing device according to claim 13, wherein the detecting packet transmitter transmits the detecting packet by using a newly allocated port in the information processing device if the communications processing device is of symmetric type.**

Hamamoto discloses **the information processing device according to claim 13, wherein the detecting packet transmitter transmits the detecting packet by using a newly allocated port in the information processing device if the communications processing device is of symmetric type** (Hamamoto: Col. 21, lines 52-54. A new port number is assigned when the type is symmetric.).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method and apparatus of co-pending applications 10/576,065, 11/510,487, and 10/576,588 to include determining the NAT type of the communication apparatus by sending two packets as taught by Hamamoto. This benefits the method and apparatus by transmitting a first transmission process and a second transmission process, wherein a NAT type of the routing apparatus is determined by the returned port numbers, further eliminating the need to send a plurality of unnecessary packets (Hamamoto: Col. 11, lines 9-12 and lines 28-35).

Regarding Claim 15, co-pending applications 10/576,065, 11/510,487, or 10/576,588 do not explicitly disclose **the information processing device according to claim 12, wherein the bubble packet transmitter transmits the bubble packet again if a position of the bubble packet transmission port cannot be detected, the detecting packet transmitter transmits the detecting packet again if a position of the bubble packet transmission port cannot be detected, and the retransmitted bubble packet and detecting packet are routed through a newly allocated port in the communications processing device.**

Hamamoto discloses **the information processing device according to claim 12, wherein the bubble packet transmitter transmits the bubble packet again if a position of the bubble packet transmission port cannot be detected, the detecting packet transmitter transmits the detecting packet again if a position of the bubble packet transmission port cannot be**

detected, and the retransmitted bubble packet and detecting packet are routed through a newly allocated port in the communications processing device (Hamamoto: Col. 34, lines 55-60. When a connection can not be established, The NAT examination phase is repeated.).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method and apparatus of co-pending applications 10/576,065, 11/510,487, and 10/576,588 to include determining the NAT type of the communication apparatus by sending two packets as taught by Hamamoto. This benefits the method and apparatus by transmitting a first transmission process and a second transmission process, wherein a NAT type of the routing apparatus is determined by the returned port numbers, further eliminating the need to send a plurality of unnecessary packets (Hamamoto: Col. 11, lines 9-12 and lines 28-35).

Regarding Claim 16, co-pending applications 10/576,065, 11/510,487, or 10/576,588 do not explicitly disclose **the information processing device according to claim 1 further comprising a port number differential detecting packet transmitter for transmitting a port number differential detecting packet via the communications processing device, the port number differential detecting packet defined as a packet used for detecting a port number differential of the communications processing device, wherein a position of the bubble packet transmission port is detected by using a port number differential of the communications processing device detected**

according to a position of a port of the communications processing device where the port number differential detecting packet passed through.

Hamamoto discloses **the information processing device according to claim 1 further comprising a port number differential detecting packet transmitter for transmitting a port number differential detecting packet via the communications processing device, the port number differential detecting packet defined as a packet used for detecting a port number differential of the communications processing device, wherein a position of the bubble packet transmission port is detected by using a port number differential of the communications processing device detected according to a position of a port of the communications processing device where the port number differential detecting packet passed through** (Hamamoto: Col. 19, lines 26-45. The port number examination request packets (Examiner correlates these to the port number differential detecting packets) report to the terminal at least two port numbers and based on whether the port numbers match, the type of NAT is determined from the relay characteristic determination section.).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method and apparatus of co-pending applications 10/576,065, 11/510,487, and 10/576,588 to include determining the NAT type of the communication apparatus by sending two packets as taught by Hamamoto. This benefits the method and apparatus by transmitting a first transmission process and a second transmission process, wherein a NAT type of

Art Unit: 2416

the routing apparatus is determined by the returned port numbers, further eliminating the need to send a plurality of unnecessary packets (Hamamoto: Col. 11, lines 9-12 and lines 28-35).

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Art Unit: 2416

9. Claims 1, 2, 5-16, and 19 are rejected under 35 U.S.C. 102(e) as being anticipated by United States Patent 7,522,618 B2 to Hamamoto et al (hereinafter "Hamamoto").

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Regarding Claim 1, Hamamoto discloses **an information processing device** (Hamamoto: Figure 2. Terminal 100 and described throughout specification as a "communication apparatus" (Col. 11, lines 25-28).) **for making communications through a communications processing device handling the communications** (Hamamoto: Figure 2. Examiner correlates the communication processing device to the router of Hamamoto comprising a NAT function. See also Col. 11, lines 36-39; the router is also described as a "relay apparatus".), **the information processing device comprising:**
a bubble packet transmitter for transmitting a bubble packet via the communications processing device (Hamamoto: Col. 11, lines 39-48. The communication apparatus transmits a first information examination request transmission to the server (via the relay apparatus; see Figure 1).), **the bubble**

Art Unit: 2416

packet being a packet for leaving a transmission history within the communications processing device (Hamamoto: Col. 15, lines 29-33. The examination request sent through the relay apparatus can determine the port number set by the NAT function.);

and a detecting packet transmitter for transmitting a detecting packet via the communications processing device (Hamamoto: Col. 11, lines 49-50.

Examiner correlates this to the “communication preparation packet”), **the detecting packet being a packet used for detecting a position of a bubble packet transmission port defined as one of ports of the communications processing device used for transmitting the bubble packet** (Hamamoto: Col. 11, lines 49-54. The communication preparation packet has the same source port information as the examination request packet.), **the detecting packet transmitted in a manner that a detecting packet transmission port where the detecting packet passes through becomes the same as or different from the bubble packet transmission port, depending on a type of the communications processing device** (Hamamoto: Col. 11, lines 61-64. The NAT type of the relay apparatus is determined based on the received port numbers included in the received information packets.).

Regarding Claim 2, Hamamoto discloses **the information processing device according to claim 1 further comprising a destination data receiver for receiving a destination data defined as information on a destination of the bubble packet** (Hamamoto: Figure 2. Examiner correlates this to the “relay information receiving section”), **wherein the bubble packet transmitter**

Art Unit: 2416

transmits the bubble packet according to the destination data (Hamamoto: Col. 11, lines 39-44. The examination requests are sent to different destinations.).

Regarding Claim 5, Hamamoto discloses **the information processing device according to claim 1 further comprising a type data receiver for receiving a type data defined as information indicating a type of the communications processing device** (Hamamoto: Figure 2. Examiner correlates this to the “relay characteristic determination section”)., **wherein the detecting packet transmitter transmits the detecting packet according to the type of the communications processing device indicated by the type data** (Hamamoto: Col. 20, lines 66-67 and Col. 21, lines 1-9. As an example, a port number request packet is sent according to the first examination request. Col. 21, lines 66-67 and Col. 22, lines 1-6. The relay information transmission section of the terminal transmits the NAT type information to the server.).

Regarding Claim 6, Hamamoto discloses **the information processing device according to claim 1 further comprising:**
a bubble packet transmission port receiver for receiving a bubble packet transmission port data defined as information indicating a position of a bubble packet transmission port detected based on the detecting packet (Hamamoto: Figure 2. Examiner correlates this to the “relay information receiving section”).);

Art Unit: 2416

and an output unit for outputting the bubble packet transmission port data

(Hamamoto: Figure 2. Examiner correlates this to the relay information transmission section”).).

Regarding Claim 7, Hamamoto discloses the information processing device according to claim 1 further comprising:

a detecting port data receiver for receiving a detecting port data defined as information indicating a position of a port of the communications

processing device where the detecting packet passed through (Hamamoto: Figure 2. Examiner correlates this to the “relay information receiving section”).);

a bubble packet transmission port detector for detecting a position of the bubble packet transmission port according to a type of the

communications processing device and the detecting port data (Hamamoto: Figure 2. Examiner correlates this to the “relay characteristic determination section”).);

and an output unit for outputting a bubble packet transmission port data defined as information indicating the position of the bubble packet

transmission port detected by the bubble packet transmission port

detector (Hamamoto: Figure 2. Examiner correlates this to the relay information transmission section”).).

Regarding Claim 8, Hamamoto discloses the information processing device according to claim 1, wherein the detecting packet transmitter transmits detecting packets in a manner that a port of the communications processing device where at least one of the detecting packets passes

Art Unit: 2416

through is the same as the bubble packet transmission port if the communications processing device is of cone type (Hamamoto: Col. 19, lines 46-53), **and in a manner that the port of the communications processing device where the detecting packets passes through is different from the bubble packet transmission port if the communications processing device is of symmetric type** (Hamamoto: Col. 19, lines 53-56. the AS NAT type router is defined as a symmetric router (Col. 2, lines 46-48).).

Regarding Claim 9, Hamamoto discloses **the information processing device according to claim 1, wherein the detecting packet transmitter transmits the detecting packet by using the same port as a port of the information processing device where the bubble packet is transmitted from, before or after transmission of the bubble packet if the communications processing device is of cone type** (Hamamoto: Col. 28, lines 21-29. After receiving the NAT type information, the terminal transmits a start request.).

Regarding Claim 10, Hamamoto discloses **the information processing device according to claim 1, wherein the detecting packet transmitter repeats transmitting the detecting packet from a different port of the information processing device than ports used before for transmission of the prior packets until a position of the port, which is a first port, of the information processing device from which the detecting packet is transmitted matches with a position of a port, which is a second port** (Hamamoto: Col. 15, lines 36-40. A second transmission is sent from a source

Art Unit: 2416

port number which is different from the first number in the first transmission.), **of the communications processing device where the same packet passes through if the communications processing device is of port reuse type, and the bubble packet transmitter transmits the bubble packet from the first port used for transmitting the detecting packet when the position of the first port matches with the position of the second port** (Hamamoto: Col. 20, lines 1-14. The port reuse type is determined when the first port pair sent in the first transmission match the port pair in the second transmission.).

Regarding Claim 11, Hamamoto discloses **the information processing device according to claim 1, wherein the detecting packet transmitter transmits the detecting packet by using the same port as a port of the information processing device where the bubble packet is transmitted from, before or after transmission of the bubble packet if the communications processing device is of port reuse type** (Hamamoto: Figure 4A. The port number examination requests 1 and 2 are sent prior to the type determination step.).

Regarding Claim 12, Hamamoto discloses **the information processing device according to claim 1, wherein the detecting packet transmitter transmits detecting packets before and after transmission of the bubble packet** (Hamamoto: Col. 28, lines 21-29. After receiving the NAT type information, the terminal transmits a start request.), **each from a different port in a manner that one of the detecting packets is transmitted from the same port used by the bubble packet transmitter for transmitting the bubble**

Art Unit: 2416

packet (Hamamoto: Figure 4B. The first transmission defines GP11 as the first port as well as the second transmission.).

Regarding Claim 13, Hamamoto discloses **the information processing device according to claim 1, wherein the detecting packet transmitter transmits detecting packets before and after transmission of the bubble packet if the communications processing device is of symmetric type** (Hamamoto: Col. 19, lines 53-56. the AS NAT type router is defined as a symmetric router (Col. 2, lines 46-48).).

Regarding Claim 14, Hamamoto discloses **the information processing device according to claim 13, wherein the detecting packet transmitter transmits the detecting packet by using a newly allocated port in the information processing device if the communications processing device is of symmetric type** (Hamamoto: Col. 21, lines 52-54. A new port number is assigned when the type is symmetric.).

Regarding Claim 15, Hamamoto discloses **the information processing device according to claim 12, wherein the bubble packet transmitter transmits the bubble packet again if a position of the bubble packet transmission port cannot be detected, the detecting packet transmitter transmits the detecting packet again if a position of the bubble packet transmission port cannot be detected, and the retransmitted bubble packet and detecting packet are routed through a newly allocated port in the communications processing device** (Hamamoto: Col. 34, lines 55-60. When a connection can not be established, The NAT examination phase is repeated.).

Regarding Claim 16, Hamamoto discloses **the information processing device according to claim 1 further comprising a port number differential detecting packet transmitter for transmitting a port number differential detecting packet via the communications processing device, the port number differential detecting packet defined as a packet used for detecting a port number differential of the communications processing device, wherein a position of the bubble packet transmission port is detected by using a port number differential of the communications processing device detected according to a position of a port of the communications processing device where the port number differential detecting packet passed through** (Hamamoto: Col. 19, lines 26-45. The port number examination request packets (Examiner correlates these to the port number differential detecting packets) report to the terminal at least two port numbers and based on whether the port numbers match, the type of NAT is determined from the relay characteristic determination section.).

Regarding Claim 19, Hamamoto discloses **an information processing method for making communications through a communications processing device handling the communications** (Hamamoto: Figure 2. Examiner correlates the communication processing device to the router of Hamamoto comprising a NAT function. See also Col. 11, lines 36-39; the router is also described as a “relay apparatus”)., **the method comprising the steps of: transmitting a bubble packet via the communications processing device**

Art Unit: 2416

(Hamamoto: Col. 11, lines 39-48. The communication apparatus transmits a first information examination request transmission to the server (via the relay apparatus; see Figure 1).), **the bubble packet being a packet for leaving a transmission history within the communications processing device**

(Hamamoto: Col. 15, lines 29-33. The examination request sent through the relay apparatus can determine the port number set by the NAT function.);

and transmitting a detecting packet via the communications processing device (Hamamoto: Col. 11, lines 49-50. Examiner correlates this to the “communication preparation packet”)., **the detecting packet being a packet used for detecting a position of a bubble packet transmission port defined as one of ports of the communications processing device used for transmitting the bubble packet** (Hamamoto: Col. 11, lines 49-54. The communication preparation packet has the same source port information as the examination request packet.), **the detecting packet transmitted in a manner that a detecting packet transmission port where the detecting packet passes through becomes the same as or different from the bubble packet transmission port, depending on a type of the communications processing device** (Hamamoto: Col. 11, lines 61-64. The NAT type of the relay apparatus is determined based on the received port numbers included in the received information packets.).

Allowable Subject Matter

10. Claims 3 and 4 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to BENJAMIN ELLIOTT whose telephone number is (571)270-7163. The examiner can normally be reached on Monday thru Friday, 8:00 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Aung Moe can be reached on (571)272-7314. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2416

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Aung S. Moe/
Supervisory Patent Examiner, Art Unit 2416

BENJAMIN ELLIOTT
Examiner
Art Unit 2416